

2006. 3

JAP20R

CLAIMS

[1] (Amended) A light-emitting element comprising a light-emitting layer including a phosphor, and at least two electrodes, the light-emitting element comprising at least two kinds of electrically insulating layers with different dielectric constants, wherein one of the electrically insulating layers is the light-emitting layer, one of the two electrodes is formed in contact with one of the insulating layers, and

10 the phosphor is a porous light-emitting body.

[2] The light-emitting element according to claim 1, wherein the at least two electrodes are formed on interfaces of the electrically insulating layers with different dielectric constants.

[3] The light-emitting element according to claim 1, wherein the other insulating layer is a gas layer, a ferroelectric layer, or a dielectric layer with a relative dielectric constant of 100 or more.

15 [4] The light-emitting element according to claim 3, wherein the ferroelectric layer or the dielectric layer is formed of at least one layer selected from a sintered layer, a mixed layer of a particle and a binder including a ferroelectric material or a dielectric material, and a molecular deposition thin film including a ferroelectric material or a dielectric material.

20 [5] The light-emitting element according to claim 3, wherein the ferroelectric layer further includes a back electrode.

[6] (Cancelled)

25 [7] (Amended) The light-emitting element according to claim 1, wherein the porous light-emitting body includes at least one gas selected from air, nitrogen, and an inert gas.

[8] (Amended) The light-emitting element according to claim 1, wherein

the porous light-emitting body is formed of a fine pore connected to a surface of the porous light-emitting body, a gas filled in the fine pore, and a phosphor particle.

5 [9] (Amended) The light-emitting element according to claim 1, wherein the porous light-emitting body is formed of a phosphor particle or a phosphor particle coated with an insulating layer.

[10] (Amended) The light-emitting element according to claim 1, wherein the porous light-emitting body has an apparent porosity in a range of not less than 10% to less than 100%.

10 [11] (Amended) The light-emitting element according to claim 1, wherein the porous light-emitting body is formed of at least one particle selected from a phosphor particle and a phosphor particle coated with an insulating layer, and an insulative fiber.

15 [12] The light-emitting element according to claim 1, wherein the light-emitting element is in an atmosphere under pressure, atmospheric pressure, or a reduced pressure, and is sealed entirely.

[13] The light-emitting element according to claim 1, wherein a direct or AC electric field is applied between the at least two electrodes so as to cause surface discharge, whereby the light-emitting layer is allowed to emit light.

20 [14] The light-emitting element according to claim 3, wherein the gas layer is provided to have a thickness in a range of not less than 1 μm to not more than 300 μm .

25 [15] The light-emitting element according to claim 1, wherein the light-emitting layer is divided into a plurality of parts by discharge separation means with respect to each pixel.

[16] The light-emitting element according to claim 15, wherein the discharge separation means is formed of a partition wall.

[17] The light-emitting element according to claim 15, wherein the

partition wall is made of an inorganic material.

[18] The light-emitting element according to claim 15, wherein the discharge separation means is formed of a space.

[19] The light-emitting element according to claim 3, wherein the gas 5 layer is partitioned by a rib in a thickness direction.

[20] The light-emitting element according to claim 1, wherein the light-emitting layer emits light of at least red (R), green (G), or blue (B) separately.

[21] The light-emitting element according to claim 1, wherein the at least 10 two electrodes are arranged so as to sandwich the at least one dielectric layer and the light-emitting layer therebetween, and an AC electric field is applied so as to cause surface discharge in the light-emitting layer, whereby the light-emitting layer is allowed to emit light.

[22] The light-emitting element according to claim 1, wherein the at least 15 two electrodes are an address electrode and a display electrode, respectively.

[23] (Amended) The light-emitting element according to claim 1, wherein one of the at least two electrodes is a transparent electrode arranged on an observation side.

[24] The light-emitting element according to claim 3, wherein the gas 20 layer is formed at at least one portion selected from a portion between the light-emitting layer and the observation side of the transparent electrode and a portion between the light-emitting layer and the back electrode.

[25] (Amended) The light-emitting element according to claim 1, wherein the other electrically insulating layer is a ferroelectric layer, the 25 light-emitting layer is a porous light-emitting layer, and the porous light-emitting layer is arranged in contact with the ferroelectric layer.

[26] The light-emitting element according to claim 25, wherein at least one of the electrodes is arranged on the porous light-emitting layer so that an

Statement under Article 19(1) (Rule 46.4)

1. Description of amendments

Claim 1 is amended to incorporate original claim 6 therein. The
5 original claim 6 has been cancelled.

Claims 23 and 25 are amended to correct an error in the description,
i.e., the lack of an antecedent.

2. Difference between the present invention and cited references

10 Even when all the cited references are combined, there is neither
description nor suggestion about the organic coupling according to claim 1 of
the present application, i.e., "the light-emitting element including at least two
kinds of electrically insulating layers with different dielectric constants,
wherein one of the electrically insulating layers is the light-emitting layer,
15 one of the two electrodes is formed in contact with one of the insulating layers,
and the phosphor is a porous light-emitting body". This achieves excellent
effects as described in [0035] and [0360] of the present specification as
originally filed.

20 3. Summary

As described above, we believe that the invention of the present
application has novelty and inventive steps over the cited references, and
that the deficiency in the description has been corrected.